IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A sensor for detecting a substance in a liquid, said sensor comprising a primary substrate and a sensor unit connected to said primary substrate, said primary substrate being shaped as a pillar and having an uppermost surface, said sensor ~~comprising detecting means~~ including a detector for detecting a change of stress or mass generated on a surface area of the sensor unit, and an electric communication line including a pair of wires for applying a voltage over said ~~detection means~~ detector, at least one of said wires being integrated in said pillar shaped primary substrate such that a distance between the integrated wire and the uppermost surface of the primary substrate differs along the length of the wire.

2. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein said sensor unit is a flexible unit in the form of a cantilever~~, such as a cantilever connected to one pillar shaped substrate, and a cantilever connected to two pillar shaped substrates e.g. a bridge~~.

3. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein said sensor unit is a flexible sheet-formed unit having an average thickness which is less than both its average length and its average width.

4. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein said detector includes ~~means for detecting a change of stress generated on a surface area of the sensor unit is in the form of~~ a surface stress sensing element integrated in the sensor unit, said pair of wires of said electric communication line ~~including a pair of wires for~~ applying an electrical field over the surface stress sensing element~~, said surface stress sensing element preferably being selected from the group consisting of a piezoelectric element, a strain gauge, a Si or C nanotube, a capacitor and a piezoresistor~~.

5. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein said detector ~~means~~ for detecting a change of stress generated on a surface area of the sensor unit is in the form of a laser system.

6. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein said pillar shaped primary substrate further has ~~an uppermost surface and~~ a lowermost surface and a height defined as the shortest distance between said uppermost surface and said lowermost ~~surfaces~~ surface, ~~which~~ said sensor unit ~~is~~ being a flexible sheet-formed unit having two major surfaces including an upper surface, said sensor unit being connected to said primary substrate so that ~~it~~ said sensor unit protrudes from the primary substrate, said upper surface of said sensor unit having an angle to the uppermost surface of said primary substrate between 135° and 225°~~, said upper surface of said sensor unit preferably being substantially parallel to the uppermost surface of said primary substrate, said uppermost surface of said primary substrate and said upper surface of the sensor unit preferably being in direct prolongation of each other~~.

7. (Currently Amended) ~~A~~ The sensor according to claim 6 wherein said uppermost surface of the primary substrate is substantially plane and said electric communication line passes through the primary substrate in a sum line having an angle of at least 45° ~~or at least 65°, such as about 90°~~ to the uppermost surface of the primary substrate.

8. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein at least one ~~or both~~ of the wires of said electric communication line ~~pass~~ passes through the primary substrate and ~~exit~~ exits the primary substrate to provide at least one electric communication line exit~~(s)~~ at a ~~the~~ lowermost surface of the primary substrate, said lowermost surface of the primary substrate being connected to a secondary substrate.

9. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein at least one ~~or both~~ of the wires of said electric communication line ~~pass~~ passes through the primary substrate material in a substantially straight line.

10. (Currently Amended) ~~A~~ The sensor according to claim 4 wherein said surface stress sensing element is selected from the group consisting of ~~in the form of~~ a piezoresistor ~~or~~ and a strain gauge and includes ~~comprises or preferably consists of~~ a material selected from the group consisting of amorph silicon, polysilicon, single crystal silicon, metal ~~or~~ and metal containing composition~~,~~ ~~e.g.~~ including gold, AlN, Ag, Cu, Pt and Al conducting polymers, ~~such as, doped octafunctional epoxidized novalac e.g. doped SU-8,~~ and composite materials with an electrically non-conducting matrix

and a conducting filler~~, wherein the filler preferably is selected from the group consisting of amorph silicon, polysilicon, single crystal silicon, metal or metal containing composition, e.g. gold, AlN, Ag, Cu, Pt and Al, semi-conductors, carbon black, carbon fibres, particulate carbon, carbon nanowires, silicon nanowires~~.

11. (Currently Amended) ~~A~~ The sensor according to claim 4 wherein said surface stress sensing element includes a capacitor in the form of two conducting elements of ~~e.g.~~ material selected from the group consisting of metal ~~or~~ and conductive polymers, said conducting elements being ~~is~~ separated in a distance of up to about ~~5 □m~~ 5μm from each other by a dielectricum selected from the group consisting of liquid, gas ~~or~~ and solids ~~e.g. air,~~ and octafunctional epoxidized novalac ~~e.g. SU-8~~.

12. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein said primary substrate includes at least ~~comprises~~ one ~~or more~~ of the materials selected from the group consisting of silicon, silicon nitride, silicon oxide, metal, metal oxide, glass and polymer, wherein the group of polymers ~~preferably~~ includes epoxy resin ~~e.g.~~ including an octafunctional epoxidized novalac, polystyrene, polyethylene, polyvinylacetate, polyvinylcloride,

polyvinylpyrrolidone, polyacrylonitrile, polymethylmetacrylate, polytetrafluoroethylene, polycarbonate, poly-4-methylpentylene, polyester, polypropylene, cellulose, nitrocellulose, starch, polysaccarides, natural rubber, butyl rubber, styrene butadiene rubber and silicon rubber.

13. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein said sensor unit is based on a material included in the primary substrate~~, preferably said sensor unit is based on the same material as that of the primary substrate, more preferably said sensor unit being integrated with said primary substrate~~.

14. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein said pillar shaped primary substrate is connected to a secondary substrate including a circuit for apply the voltage, said primary substrate and said secondary substrate ~~are~~ being made of the same material.

15. (Currently Amended) ~~A~~ The sensor according to claim 2 ~~1~~ wherein said cantilever is connected to one pillar shaped primary substrate and protrudes from the primary substrate in at least one ~~or more~~ cantilever protruding ~~directions~~ direction to provide a

free edge of said cantilever, said cantilever having a two-dimensional cantilever shape defined as the shape surrounded by the cantilever free edge and ~~the~~ a stem line along the connection to the pillar shaped primary substrate, ~~which~~ said shape ~~may be regular or irregular, and preferably is~~ being selected from the group consisting of square, rectangular, triangular, pentagonal, hexagonal, leaf shaped, circular and oval periphery.

16. (Currently Amended) ~~A~~ The sensor according to claim 2 ~~1~~ wherein said sensor unit in the form of a cantilever is connected to two ~~pillars shaped~~ pillar-shaped primary substrates to thereby form a bridge.

17. (Currently Amended) ~~A~~ The sensor according to claim 15 wherein said ~~primary substrate has an~~ uppermost surface ~~or said primary substrates have uppermost surfaces, said uppermost substrate surface(s) being~~ is substantially parallel with ~~the~~ an upper surface of the cantilever when the cantilever is in a non stressed state.

18. (Currently Amended) ~~A~~ The sensor according to claim 15 wherein both of said wires in the pair of wires pass through the

primary substrate ~~or substrates~~ in a sum line having an angle which is substantially perpendicular to the uppermost surface of said primary substrate ~~surface(s), the centre line of the pillar shaped primary substrate(s) preferably being perpendicular +-20° to uppermost surface thereof, which wires pass through the primary substrate and exit the pillar shaped primary substrate(s) at its lowermost surface~~.

19. (Currently Amended) ~~A~~ The sensor according to claim 18 wherein said pillar shaped primary substrate~~(s)~~ is~~/are~~ connected to a secondary substrate including ~~comprising~~ a circuit for applying the voltage, said secondary substrate ~~preferably~~ being an electronic chip ~~comprising~~ having contact pads corresponding with ~~said~~ wire exits from said primary substrate.

20. (Currently Amended) ~~A~~ The sensor according to claim 17 wherein said pillar shaped primary substrate~~(s)~~ is~~/are~~ connected to at least two ~~or more~~ cantilevers, the wires of which cantilevers pass through the pillar shaped primary substrate~~(s), said cantilevers preferably having a two-dimensional cantilever shape which is substantially identical to each other, more preferably said two-dimensional cantilever shape preferably being selected~~

~~from the group consisting of square, rectangular, triangular, pentagonal, hexagonal and leaf shaped periphery~~.

21. (Currently Amended) ~~A~~ The sensor according to claim 1 further comprising a secondary substrate supporting said pillar shaped primary substrate ~~or substrates~~, said secondary substrate ~~comprising~~ including an electric supply line for supplying an electric field over the ~~respective~~ pair~~(s)~~ of wires~~, said wires preferably being guided through the secondary substrate~~.

22. (Currently Amended) ~~A~~ The sensor according to claim 21 wherein said secondary substrate is an electronic chip having ~~comprising~~ contact pads corresponding with ~~said~~ wire exits from said primary substrate.

23. (Currently Amended) ~~A~~ The sensor according to claim 21 wherein said secondary substrate carries an array of pillar shaped primary substrates carrying sensor units connected thereto, wherein the wires are incorporated in the primary substrates.

24. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein said sensor ~~comprises~~ includes a secondary substrate and a

plurality of pillar shaped primary substrates, each of said pillar shaped primary substrates having an uppermost surface and a lowermost surface[[,]] and a pillar wall surface, each of said pillar shaped primary substrates being respectively connected to said secondary substrate at ~~its~~ said lowermost surface, said sensor ~~comprising~~ including a liquid chamber capable of containing a liquid so that liquid can be applied in said liquid chamber to surround at least one ~~or more, preferably all~~ of said pillar shaped primary substrates so that the respective pillar wall extending around said pillar shaped substrate and at least a part of the sensor unit connected to the pillar shaped substrates are contacted with the liquid.

25. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein said sensor further ~~comprises~~ includes a fluid channel, said sensor ~~units~~ unit partly or totally being disposed in said fluid channel, said pillar shaped primary substrate ~~substrates preferably~~ being disposed in said fluid channel.

26. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein said sensor ~~comprises~~ includes at least one sensor unit having a target surface area, which area has been functionalised by

linking of at least one ~~or more~~ functional ~~groups comprising~~ group including a detection ligand to said target surface area, said detection ligand being a member of a specific binding pair.

27. (Currently Amended) ~~A~~ The sensor according to claim 1 wherein the sensor ~~comprises~~ includes at least two sensor units, at least one of said sensor units being a reference unit.

28. (Currently Amended) ~~A~~ The sensor according to claim 27 wherein said reference unit ~~comprises~~ includes a target surface area, which area has a surface chemistry different from the sensor unit for which the reference unit acts as reference~~, preferably said target surface area has been functionalised by linking of one or more functional groups, wherein said one or more functional groups linked to the surface area of said reference unit or its concentration are different from the sensor unit for which the reference unit acts as reference~~.

29. (New) The sensor according to claim 4 wherein said surface stress sensing element is selected from the group consisting of a piezoelectric element, a strain gauge, an Si or C nanotube, a capacitor and a piezoresistor.

30. (New) The sensor according to claim 6 wherein said upper surface of said sensor unit is substantially parallel to the uppermost surface of said primary substrate.

31. (New) The sensor according to claim 6 wherein said uppermost surface of said primary substrate and said upper surface of the sensor unit are in direct prolongation of each other.

32. (New) The sensor according to claim 18 wherein the centre line of the pillar shaped primary substrate is perpendicular +- 20° to the uppermost surface thereof, said wires passing through the primary substrate and exiting the pillar shaped primary substrate at a lowermost surface thereof.

33. (New) A sensor for detecting a substance in a liquid, said sensor comprising a primary substrate shaped as a pillar having an upper end and a lower end, a sensor unit connected to said primary substrate at said upper end and protruding therefrom such that an upper surface of said sensor unit has an angle to an uppermost surface of said primary substrate of between about 135° and about 225°, a detector for detecting a change of stress or mass generated on a surface area of said sensor unit, and an electric

communication line for applying a voltage over said detector, at least part of said communication line being integrated in said pillar shaped primary substrate so as to extend from said upper end to said lower end.